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ABSTRACT

The purpose of this investigation was to assess the acquisition of knowledge and the change in attitudes of secondary students towards Acquired Immune Deficiency Syndrome (AIDS) following an AIDS Education Program (AEP). The sample of 676 students was from health and biology classes from three rural middle-class communities. Each group of students was given a pre-test prior to an AIDS Education Program. A post-test was administered approximately two weeks after the AEP was completed. Results indicated that the seventh grade group was the most influenced by the AEP on both parts of the test. This, along with the lack of attitude change found in senior high groups, suggested the importance of providing AEPs to students prior to their coming to terms with their own sexuality. The key may be in forming, rather than changing, attitudes. A copy of the questionnaire on facts about AIDS is appended. (JD)

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TEACHERS MAKE A DIFFERENCE

The Effects
of
AIDS EDUCATION PROGRAMS
in
Three Rural School Districts
of
Western Pennsylvania

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INTRODUCTION

Acquired Immunodeficiency Syndrome (AIDS) was first identified in the United States in 1981. By March 15, 1988 a total of 55,315 adult cases, not including Aids Related Complex (ARC) or those who are sero-positive were reported to the Center for Disease Control (CDC).[1] AIDS is defined as a deadly disease that destroys the body's immune defense system and its ability to fight off some infections and cancer. ARC is defined as a less severe form of the disease; it may or may not progress to full-blown AIDS. Sero-positive indicates that one is infected with the AIDS virus although no symptoms are manifested. Those who test sero-positive are quite capable of infecting others. It has been predicted that many of those who test sero-positive will at some time become full-blown AIDS cases.

AIDS has been shown to be spread by the exchange of body fluids, i.e. sharing of intravenous (I.V.) drug needles, sexual contact, exposure to blood and from an infected female to her infant or fetus. A cure for AIDS or a vaccine to prevent AIDS does not seem evident in the near future.

In 1987 the National Research Council reported that by age 19, about 63% of females and 78% of males will have had one sexual experience and that 28% of 12 to 17 year olds are currently sexually active.[2] It is important that this age group receive the facts about the transmission of AIDS.

The Reagan administration has mandated that AIDS Education be taught in the public schools at least once in grade school, junior high, and in senior high. An AIDS policy was to be in place, in all schools, by the end of 1987.[3] On July 9, 1987 the Pennsylvania Board of Education adopted regulations which required school districts to provide AIDS education as part of the health curriculum. According to the regulations, the nature of the disease, the lack

of a cure, transmission and prevention must be presented in a systematic series of lessons. The mandate does not list guidelines as to how these issues must be taught in those classes or the length of time required.

In an NEA Today publication, titled "The Facts About AIDS" Dr. C. Everett Koop, the U.S. Surgeon General stated "Your students are especially vulnerable to AIDS when they begin exploring sex or experimenting with drugs. America's teachers make up the only professional, nationally dispersed network that can reach young people before they begin these behaviors."[4] A new era of educating our young people about healthy sexual and personal attitudes is beginning.

The Problem:

The government has mandated AIDS education in the schools, which will by necessity, deal with some issues of sex-education. Teaching about sexual behavior has always been somewhat of a foreign idea in the public school system. Because of the sensitive nature of the disease, educators face several problems, i.e. parental and religious values, condoms and homosexuality. Is it possible for teachers to overcome these obstacles and effectively influence their students concerning AIDS?

The Purpose:

The purpose of this investigation was to assess the acquisition of knowledge and the change in attitudes of secondary students toward AIDS following an AIDS Education Program (AEP). This study should help educators and researchers determine how effective they can be, not only in conveying facts about the disease, but in instilling the attitudes that are so important in the

students' ability to prevent the transmission of the disease.

The results of this research will provide baseline data on students' knowledge and attitudes about AIDS. In addition, a statistical analysis of post-test data will be used to answer the following:

1. What effect will an AEP have on student knowledge when comparing pre-and post-test class mean scores on the Knowledge and Attitude Test about AIDS (KATA)?

2. What effect will an AEP have on student attitudes when comparing pre-and post-test class mean scores on the KATA?

3. Does grade level affect knowledge about AIDS?

4. Does grade level affect attitudes about AIDS?

5. What will junior high students list as the most and least significant source of information on AIDS?

6. What will senior high students list as the most and least significant sources of information on AIDS?

TEACHING METHODS

Definitions:

The dependent variable in this study was the knowledge and attitudes of the students.

The experimental treatment or independent variable was the effect of teacher presented AEP on students' attitudes and knowledge.

The AEP was defined as a 3-10 day curriculum, including lectures, films, work sheets and group discussion. Teachers used materials from Time magazine, American Red Cross and various other sources for their lectures.

The possible confounding variables will be such things as media campaigns, movies and soap operas that now display AIDS stories. Since all school districts experienced similar exposures, no attempt was made to control these variables. The same or similar effects will be operating on all students.

RESEARCH DESIGN:

The design used was a Nonrandomized Pretest-Posttest Design.[5] Each group was given a pre-test prior to an AIDS Education Program. A post-test was administered approximately two weeks after the AEP was completed.

POPULATION AND SAMPLE DATA:

The sample of students in the investigation were from health or biology classes from three local school districts. The three communities are in close approximation to each other and are considered to be rural western Pennsylvania middle class communities.

The following is a breakdown of the twenty-seven classes chosen for the study and a breakdown of the class size: 394 junior high students from fourteen intact classes of which four classes were eighth graders with the remainder seventh graders. Thirteen classes of senior high students with 282 students of which approximately 1/3 were eleventh graders with the remainder ninth and tenth graders. The total study consisted of 676 students from three different schools. The numbers presented here do not include experimental mortalities, those students who failed to complete the answer form were deleted from the study. No attempt was made to try to get answers from the students who were absent on test days. Some classes were segregated by sex.

Instrumentation:

The Knowledge and Attitude Tests about AIDS (KATA) was designed by investigators and patterned after High School Perceptions and Misperceptions of AIDS (Price, Desmond, and Kukula 1985).[6] Questions were also modeled from materials supplied by the American Red Cross and the National Education Association.[7]

The original KATA questionnaire had eighteen (18) true and false questions along with six (6) attitude questions, plus the final question which asked for sources of information. This test was given to a group of medical professionals to evaluate the content validity. Several queries were raised about interpretation of the questions which resulted in questions being reworded. The revised test was administered to another group of medical technicians to further validate content and clarity of the questions. The resulting instrument was pilot tested with 140 ninth grade students. Following this study the instrument was again revised. The true and false questions were reworded to make meanings more clear. The attitude questions were expanded so that students were not led to make correct or desired choices. The revised test was given to professionals to insure the validity of the medical content as ongoing research in the field allows data to become outdated in a very short period of time.

The final version consisted of twenty true and false questions pertaining to knowledge about AIDS, twenty-two multiple choice questions; seventeen dealing with reactions and feelings, two personal data questions and three questions asking for sources of information.

The instrument has an eighth grade reading level determined by the Fry and the Smog methods. The test-retest reliability was calculated using a Pearson Product Moment. The attitudes subsection was calculated to be R = .74, the knowledge subsection was calculated to be R = .57.

DATA

Mean test scores were determined for changes between pre-and post scores and for changes between intact group scores. $P<.05$ level of significance was used. A table with the summation of the data follows:

Knowledge - Total Possible Points 20

Grade	Pre-test class mean	S.D.	Post-test class mean	S.D.	T score	Significance
7	13.81	0.54	15.62	0.79	- 6.25	0.000
8	14.22	0.10	16.21	0.02	-18.91	0.002
9-10	15.11	1.01	16.19	0.54	- 2.65	0.017
11	14.51	1.69	16.66	1.36	- 1.98	0.094
Jr High	13.87	0.53	15.70	0.76	- 7.16	0.000
Sr High	14.89	1.17	16.33	0.79	- 3.67	0.001

Attitudes - Total Possible points 85

7	60.35	1.63	63.21	2.16	- 3.51	0.002
8	60.69	0.68	61.69	0.65	- 1.06	0.400
9-10	62.43	3.34	61.55	2.43	0.60	0.564
11	61.02	2.53	59.88	3.84	0.43	0.683
Jr High	60.40	1.53	62.99	2.09	- 3.62	0.002
Sr High	61.95	3.07	61.13	2.94	0.69	0.500

When students were asked to list who influenced their ideas about AIDS the most and least students responded with the following:

A. TV and Radio
B. Newspapers and Pamphlets
C. Friends and Family
D. Teachers
E. All of the Above

Most grade	pre-post a -aa	pre-post b -bb	pre-post c -cc	pre-post d -dd	pre-post e -ee
7	95-68	33- 25	56-31	53-84	10-23
8	19-16	11-3	6-7	23-26	1-4
9-10	109-68	37-16	32-17	34-67	9-13
11	41-22	8-16	11-13	16-22	13-11
Least					
7	53-68	94-104	79-95	50-22	11-3
8	13-10	21-26	18-19	5-2	1-0
9-10	21-20	38-40	90-78	51-20	9-8
11	17-24	23-22	28-31	16-10	3-4

SENIOR HIGH STUDENTS

Figure 1

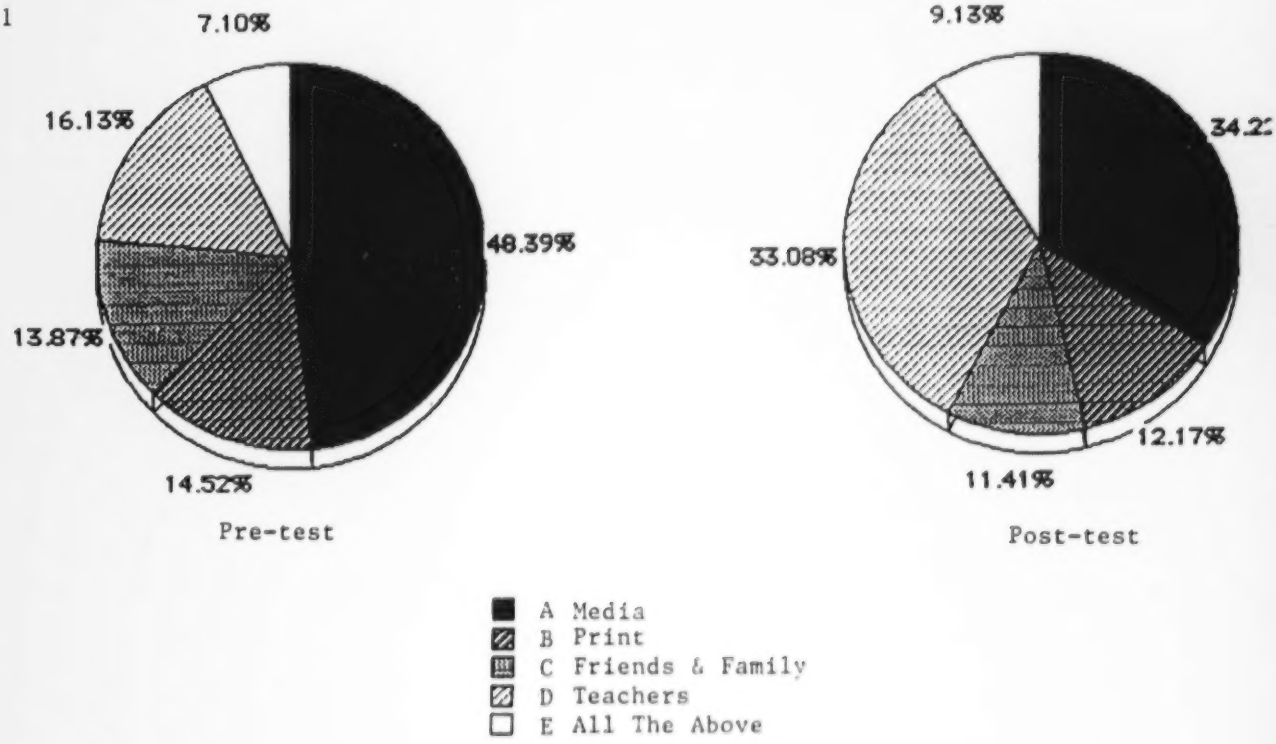

Figure 2

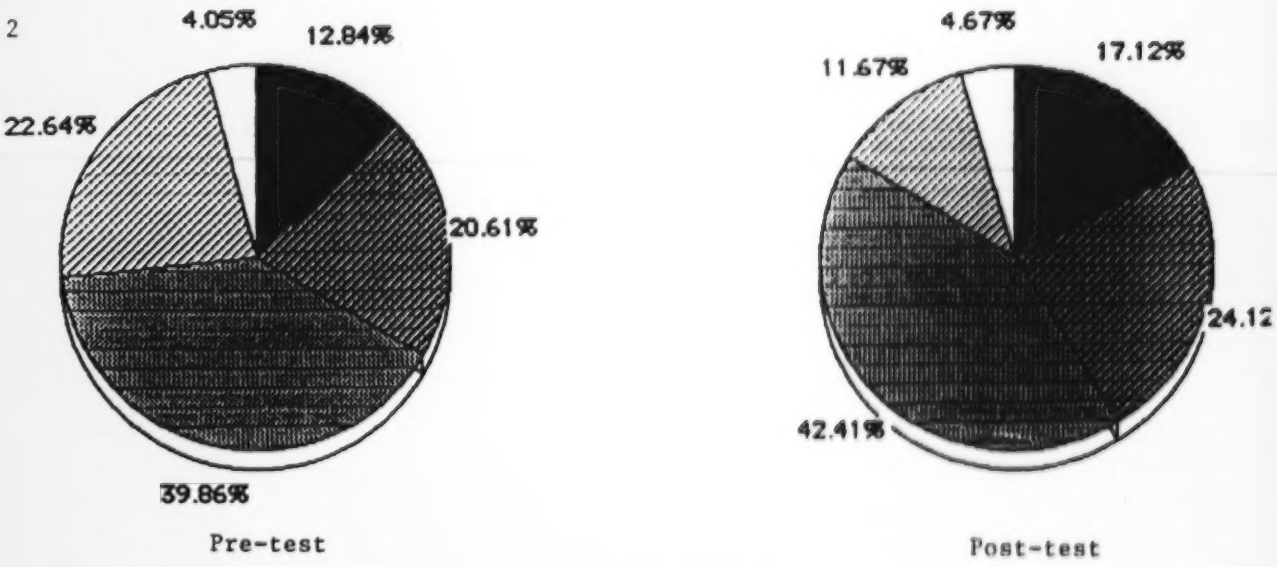

Figure 1: Indicates student responses to the question:
Which of the above influenced your ideas about AIDS the most?

Figure 2: Indicates student reponses to the question:
Which of the above influenced your ideas about AIDS the least?

JUNIOR HIGH STUDENTS

Figure 3

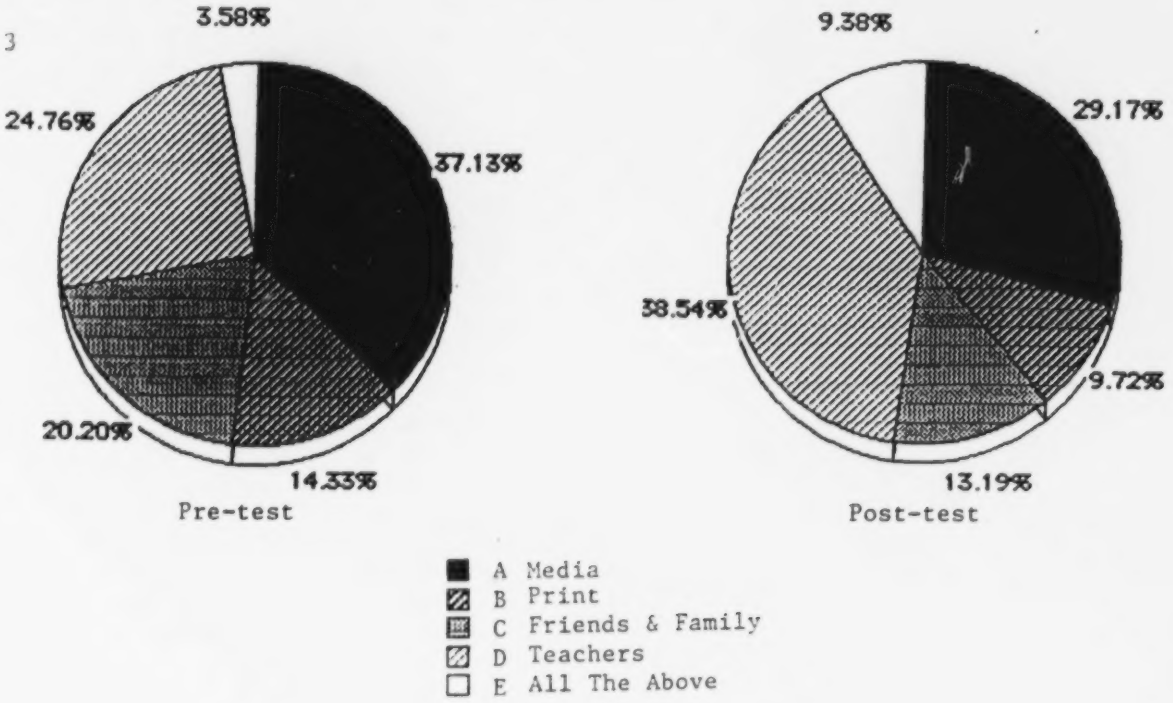

Figure 4

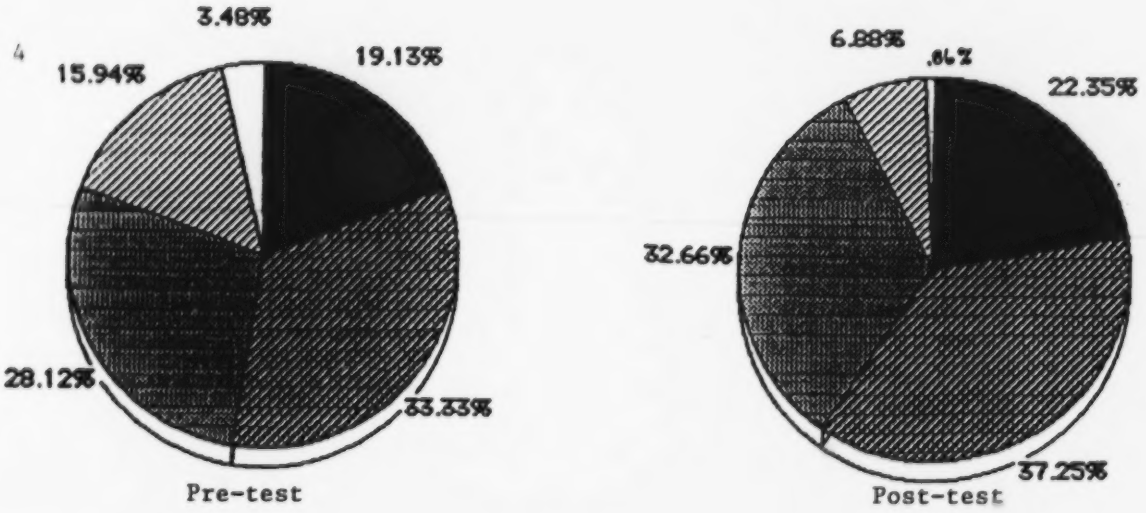

Figure 3: Indicates student responses to the question:
Which of the above influenced your ideas about AIDS the most?

Figure 4: Indicates student responses to the question:
Which of the above influenced your ideas about AIDS the least?

DISCUSSION:

Intact groups were used. In this study, due to classroom time restraints, the treatment employed was weak, as it was not run over a long period of time.

Several teachers noted it was difficult for their students to deal with questions containing statistics. In the future, because of rapidly changing information it would be helpful to omit such questions and use a shorter, revised form of the test. These factors may have influenced the validity of this investigation. In addition, studies concerning the internal validity of the instrument need to be done.

CONCLUSIONS:

The growing number of AIDS cases and low pre-test scores indicate a need for AIDS education.

Using a .05 level of significance, T-test data indicates a significant increase in knowledge, in both junior and senior high groups, following the AEP. While junior high groups showed a significant increase in positive attitudes, senior high did not.

Results of this study indicated seventh grade was the group most influenced by the AEP on both parts of the test. This, along with the lack of attitude change found in senior high groups, suggests the importance of providing AEPs to students prior to their coming to terms with their own sexuality. The key may be in forming, rather than attempting to change, attitudes.

As a result of the AEP, students indicated a reduction in dependency on media as a source of information. Media influence, while is is important, is often directed at the surface of the problem and does not go into detail or answer specific student questions.

Senior high students showed no significant change in attitude following the AEP. However, teachers were cited as influential sources, twice as often on the post-test. Teachers can make a difference.

KNOWLEDGE AND ATTITUDES TEST ON AIDS

FACTUAL QUESTIONS ABOUT AIDS

True False Questions

1. AIDS is a medical condition in which your body's immune system is unable to defend itself against foreign substances.
2. AIDS is a condition that has been around for at least 50 years, it is just more in the news today.
3. AIDS is a disease with no known cure.
4. People who test positive for AIDS always have symptoms of the disease.
5. People who get AIDS are more likely to get certain forms of cancer.
6. All people who test positive for AIDS are likely to die within 5 years.
7. Persons with AIDS become ill because of other diseases.
8. People who get AIDS may get rare forms of pneumonia.
9. One should not touch or come near an AIDS patient because he/she might tansmit it to them.
10. Only 87 health care workers are classified as having AIDS out of the 32,395 cases now known.
11. AIDS is a condition which only affects gays.
12. The signs of AIDS are different from any other disease.
13. Drug users who share needles can spread the AIDS virus.
14. AIDS is spread by dirty toilet seats.
15. Vaginal intercourse is a way to get AIDS.
16. There is a blood test to detect infection with the AIDS virus.
17. Having many sex partners will increase the chance of getting AIDS.
18. Regular household bleach diluted 1 to 10 will kill the virus.
19. People who test positive for AIDS may never develop the disease but can transmit the virus through body fluids.
20. AIDS is often spread by kissing.

KNOWLEDGE AND ATTITUDES TEST ON AIDS cont'd

ATTITUDES

Use the appropriate letter to indicate:

Strongly agree	Agree	Undecided	Disagree	Strongly disagree
A	B	C	D	E

____21. People with many sexual partners are more likely to get AIDS than people with fewer sexual partners.

____22. I may know someone who has AIDS.

____23. If a student in my class had AIDS he should receive home-bound studies only.

____24. People who test positive for AIDS should be quarantined.

____25. A good way to avoid AIDS is to learn about the disease.

____26. I don't worry about AIDS because I do not engage in any risky behavior.

____27. I don't need to worry about AIDS because I don't know anybody who has AIDS.

____28. If a student in my class had AIDS I would treat him like any other student.

____29. A good way to avoid AIDS is to associate only with healthy people.

____30. Current media hype is an attempt to frighten people into more conservative attitudes.

____31. I believe I've had an opportunity to be exposed to AIDS.

____32. I am paying close attention to the answers on this form.

____33. People who test positive for AIDS are easily identified.

____34. If my brother or sister had AIDS I would not have anything to worry about as AIDS is not spread through casual contact.

____35. AIDS is a by-product of the sexual revolution of the 60's and 70's.

____36. I think I should learn about AIDS so that I can protect myself and live with those who are unfortunate enough to have it.

____37. People who have AIDS should not be left in school.

____38. Mark the appropriate letter for your grade in school.
[A] 7-8 [B] 9-10 [C] 11-12 [D] college [E] professional

____39. Mark A if you are a female; mark B if you are a male.

KNOWLEDGE AND ATTITUDES TEST ON AIDS cont'd.

____40. Where did you find current information about AIDS. You may mark more than one or mark E for all.
[A] TV and radio [B] Newspapers and pamphlets [C] Friends and family
[D] School and teachers [E] All of the others

____41. Using the same letter designations as in #40 which one influenced your ideas the most.

____42. Using the same letter designation as #40 which one influenced your ideas about AIDS the least.

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